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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
MATTISON, LORI K	

ART UNIT	PAPER NUMBER
1619	

MAIL DATE	DELIVERY MODE
05/11/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/593,064	LIVOREIL ET AL.	
	Examiner	Art Unit	
	LORI MATTISON	1619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 May 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *36-74* is/are pending in the application.

4a) Of the above claim(s) *56-74* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *36-55* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *05/27/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

The Group and/or Art Unit location of your application in the PTO has changed. All correspondence regarding this application should be directed to Group Art Unit 1619.

Status of the Claims

The new claim listing filed 05/27/2008 is acknowledged. Claims 1-35 have been cancelled. Claims 36-74 have been added. Claims 36-74 are pending in the current application, of which Group 1, claims 36-55 are being considered on their merits. Claims 56-74 are withdrawn from consideration at this time being drawn to an unelected invention.

Election/Restrictions

Claims 56-74 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to nonelected elected inventions, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 1/21/2010. Applicant argues that there is a common special feature shared among the three groups.

Applicant's traverse has been considered but is not persuasive. As previously stated, the polymer of Group 1 may not comprise sugar moieties. The polymers recited by Groups II and III may comprise sugars (i.e. sugars are not prohibited). Furthermore, as demonstrated by the 35 USC 103(a) rejection below, the composition of instant claim 36 was known, therefore it can not be the special technical feature.

The restriction requirement is deemed proper and is made final.

Specification

The disclosure is objected to because of the following informalities: the section headings are not present as required by 37 CFR 1.77(b). Therefore, it is difficult to ascertain which sections are present and whether these sections are in the correct order.

To obviate this objection, Applicant may wish to consider whether it is appropriate to amend the instant specification to include the section headings in the order described in M.P.E.P. § 608.01(a). If Applicant chooses to amend their instant specification, Applicant is only required to use section headings that pertain to their instant specification.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 36, 37, 39, 45 and 55 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No. 2003/0143175 (Samain, 2003).

Claim Interpretation: The recitation of "...wherein the modification with hydrophobic hydrocarbon segments is not carried out by means of a bifunctional spacer group" in instant claim 36 is a product-by-process recitation. Instant claim 36 is not limited to the

manipulations of the recited steps, only the structure implied by the steps (MPEP 2113 [R-1]).

Samain discloses a two polymer reagent composition (Composition C). When applied to hair the Polymers A and B react to form a coat (i.e. the polymer "B" segment grafts to form a coat with polymer A) (page 5, paragraphs 123-126). Composition C comprises 50% of PAMAM dendrimers (i.e. at least one polymer whose polymer chain comprises at least two amines, which has end primary amines; this is polymer B) and is devoid of sulfur, silicone, or amido groups. The remaining polymer is Gantrez S-97BF (i.e. second segment that is a hydrophilic segment; this is polymer A) (page 6, paragraph 120). Gantrez-S-97BF is aqueous solution, thus the composition comprises water solvent.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.

3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 36- 41, 45-50, 54 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 2003/0143175 (Samain, 2003).

Claim Summary: The modified polymer may be present in an amount from 0.01 to 40 % by weight or in an amount from 1 to 10% by weight (instant claims 47 and 48). The polymer may be a basic amino acid chosen from ornithin, asparagine, glutamine, lysine, and arginine (instant claim 38). The polymer of the composition may be hydroxylated and comprise polyvinyl alcohol segments (instant claims 40 and 41). The polymer may be polyethyleneimine-polyvinyl alcohol (instant claim 46). The composition may comprise a provitamin (instant claim 54). The composition may comprise conditioning agents selected from cyclic silicones and styling agents which are chosen from anionic, nonionic, and amphoteric polymers (instant claims 49-51).

The limitations of instant claims 36, 37, 39, 45 and 55 are addressed above.

Samain teaches that the polymer comprises at least one chemical from the functional group A or B (page 2, paragraph 65). Samain goes on to teach that each polymer contains at least two sets of identical chemical functional groups (A, A or B, B) in order to bond with at least other polymers (page 3, paragraph 66). Samain teaches that polylysine, polethyleneimines, polyvinyl alcohol, and PAMAM dendrimer are functional "B" polymers (page 3, paragraphs 69, 70, 72 and 85-90). Furthermore, Samain teaches that polylysine, polethyleneimines, polyvinyl alcohol, and PAMAM

dendrimer may be paired with maleic anhydride (i.e. Gantrez S-97BF) (page 3, paragraph 69, 70 and 72).

Samain teaches that the two polymers of his invention are present in an amount from 0.05 to 50% by weight (page 4, paragraph 114). These two polymers spontaneously react at with each other and deposit on the hair and remain (page 4, paragraph 100-102).

Samain also embodies a composition which includes panthenol in the cross linked deposit (page 5, paragraphs 139 and 141). One of ordinary skill in the art would recognize that panthenol is a provitamin with conditioning (i.e. softening) properties. Samain also teaches inclusion of volatile cyclic silicones in the composition to form a water/solvent mixture (page 4, paragraph 116).

Samain does not embody a polymer containing at least two units of one or more basic amino acids which is lysine in Composition C as set forth by instant claim 38.

Samain does not embody polyethyleneimine-polyvinyl alcohol as the polymer in Composition C as set forth by instant claim 46.

Samain does not embody polyhydroxylated compounds in the polymer of Composition C as set forth by instant claim 40.

Samain does not embody polyhydroxylated compounds being polyvinyl alcohol segments in the polymer of Composition C as set forth by instant claim 41.

Samain does not embody the polymer in an amount ranging from 0.01 to 40% by weight in Composition C as set forth by instnat claim 47.

Samain does not embody the polymer in an amount ranging from 1 to 10% by weight in Composition C as set forth by instant claim 48.

Samain does not embody inclusion of a provitamin in composition C as set forth by instant claim 54.

Samain does not embody inclusion of a conditioning agent or styling agent in Composition C as set forth by instant claim 49.

Samain does not embody inclusion of cyclic silicones in composition C as set forth by instant claim 50.

With regard to instant claim 38, it would have been *prima facie* obvious to a person of ordinary skill in the art at the time the invention was made to have looked to Samain's teachings and modified Samain's polymer to comprise polylysine because Samain contemplates a polymer containing at least two chemically identical functional groups (A,A, B,B) and polylysine and PAMAM dendrimer are taught to be combined with maleic anhydride in Gantrez. The skilled artisan would have been motivated in order to provide better conditioning and combability to the hair in which the composition is applied.

With regard to instant claims 40, 41 and 46, it would have been *prima facie* obvious to a person of ordinary skill in the art at the time the invention was made to have looked to Samain's teachings substituted Samain's polymer of Composition C with polyethyleneimine-polyvinyl alcohol polymers because Samain teaches use of two chemically identical functional groups (A, A, or B, B) to bond to at least two other polymers and polyethyleneimines, dendrimers, and polyvinyl alcohols are taught to be

polymers which all bind with maleic anhydride. Thus one of ordinary skill in the art would be aware that they may substitute one for the other. The skilled artisan would have been motivated to do so in order to modify the molecular weight of the formed composition, its feel, and deposition.

With regard to instant claims 47 and 48, the adjustment of particular conventional working conditions (e.g. determining result effective amounts of two polymers to place in Samain's composition) is deemed merely a matter of judicious selection and routine optimization which is well within the purview of the ordinary artisan with said artisan recognizing that the two polymers react together to form a big polymer coating (i.e. one modified polymer) on the hair as taught by Samain. Since the artisan of ordinary skill recognized that coating provides holding effects, softness and sheen, the artisan of ordinary skill would have provided a result effective amount to accomplish desired goal (i.e. conditioning , shine, or hair styling)(page 1, paragraphs 2-4).

With regard to instant claim 54, it would have been *prima facie* obvious to a person of ordinary skill in the art at the time the invention was made to have looked to Samain's teachings and modified Composition C to include the provitamin panthenol in the composition because Samain teaches inclusion of the cosmetic adjuvants in other composition which deposit on hair. The skilled artisan would have been motivated to do in order to provide the provitamin to the hair, making this hair more soft and easier to comb.

With regard to instant claims 49 and 50, it would have been *prima facie* obvious to a person of ordinary skill in the art at the time the invention was made to have looked

to Samain's teachings and added a cyclic silicone to the composition because Samain teaches that cyclic silicones may be added to water to yield water/solvent mixtures. The skilled artisan would have been motivated to do so in order to provide additional sheen to the hair. Providing sheen to the hair is one of the goals of Samain's invention and cyclic silicones are known in the cosmetic arts to provide shine (page 1, paragraph 2).

Claims 52 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Samain as applied to claims 36- 41, 45-50, 54 and 55 above, and further in view of US Patent No. 4, 818,523 (Clarke, 1989)

Claim Summary: The conditioning agent is present in an amount of 0.01 to 40% or 0.1 to 20% by weight relative the total weight of the composition (instant claims 52 and 53).

Samain does not teach that the cyclic silicone is present in an amount from 0.01 to 40 % by weight as set forth by instant claim 52.

Samain does not teach that the cyclic silicone is present in an amount from 0.01 to 20 % by weight as set forth by instant claim 53.

Clarke teaches hair rinse conditioners (title). In a preferred aspect of the invention Clarke teaches use of 0.5-1% cyclomethicone (i.e. a volatile cyclic silicone solvent) in the hair conditioner (column 3, lines 30-40). Clarke teaches that cyclomethicone provides conditioning (column 5, lines 45-60).

With regard to instant claims 52 and 53, the adjustment of particular conventional working conditions (e.g. determining result effective amounts of the cyclomethicone

conditioning agent) is deemed merely a matter of judicious selection and routine optimization which is well within the purview of the ordinary artisan. Said artisan, at the time the invention was made, recognized from Clarke's teachings that cyclomethicone is a conditioning agent which may be utilized in hair conditioning compositions in an amount from 0.5-1% (column 3, lines 30-40).

Claim 51 is rejected under 35 U.S.C. 103(a) as being unpatentable over Samain as applied to claims 36- 41, 45-50, 54 and 55 above, and further in view of US Patent No. 5,674,478 (Dodd, 1997).

Claim Summary: The styling agents in the composition are amphoteric polymers (instant claim 51).

Samain teaches inclusion of fixing polymers in his composition (page 4, paragraph 115).

Samain does not teach inclusion of amphoteric fixing polymers as set forth by instant claim 51.

Dodd teaches hair conditioning compositions (title). Dodd teaches that amphoteric polymers are hair hold polymers (column 10, lines 10-35).

With regard to instant claim 51, it would have been *prima facie* obvious to a person of ordinary skill in the art at the time the invention was made to have to have modified Samain's invention by adding amphoteric polymers to Samain's composition because Samain teaches inclusion of hair fixing polymers and amphoteric polymers are hair fixing polymers taught for use in hair conditioning compositions by Dodd (column

10, lines 10-35). The skilled artisan would have been motivated to do so in order to make the hair which has the treating polymers bound to it, more manageable.

Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Samain as applied to claims 36- 41, 45-50, 54 and 55 above, and further in view of US Patent No. 4,983,383 (Maksimoski, 1991) and US Publication No. 2004/0115152 (Hannich, 2004).

Claim Summary: Polyhydroxylated portion of the polymer comprises polyethylene glycol segments (instant claim 42).

Samain teaches inclusion of polymers with hydroxyl functional groups (page 3, paragraph 69). The hydroxyl functional groups may be polyvinyl alcohols (page 3, paragraph 69).

Samain does not teach inclusion of polyethylene glycol in the segments of his polymers as set forth by instant claim 42.

Maksimoski teaches that polyvinyl alcohol is a hair setting polymer polymers (column 15, lines 45-55).

Hannich teaches waxy polyethylene glycols provide hair setting and water solubility (page 1, paragraphs 2, and 7-14).

With regard to instant claim 42, it would have been *prima facie* obvious to a person of ordinary skill in the art at the time the invention was made to have substituted the polyvinyl alcohol moieties with the polyethylene glycol segments because both types of polymers are utilized in hair care compositions to provide hair setting. The skilled

artisan would have been motivated to do so in order to better solubilize the polymer in the water solvent taught by Samain while still providing good setting properties to the polymer.

Claim 43 and 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Samain as applied to claims 36- 41, 45-50, 54 and 55 above, and US Patent No. 4,269,680 (Rowe, 1981)

Claim Summary: The hydrophobic segment of the polymer is chosen from fatty carbon chains (instant claim 43). These chains are recited to be C10-C50 hydroxyalkyl radicals (instant claim 44).

Samain teaches that cinnamic acid and its esters are suitable functional groups for the A group polymers (page 1, paragraph 25).

Samain does not teach hydrophobic chains chosen from fatty carbon atoms as set forth by instant claim 43.

Samain does not teach C12-C50 fatty acid esters as set forth by instant claim 44.

Rowe teaches curable polymeric compositions comprising natural or synthetic rubber (title). Rowe goes on to teach that curable reagents which contain carboxyl groups include cinnamic acid and fatty acids having 6 or more carbon acids like linoleic acid (column 7, lines 45-50).

With regard to instant claims 43 and 44, it would have been *prima facie* obvious to a person of ordinary skill in the art at the time the invention was made to have modified Samain's composition by substituting the cinnamic acid ester for fatty acid

esters having 6 or more carbon atoms because both functional groups comprise carboxyl groups which are used in polymers that "cure" and Samain's composition literally cures to hair to make films. The skilled artisan would have been motivated to do so in order to modify the polymer film which is bond to hair.

With regard to the length of the carbon atoms on the fatty acid chain, the adjustment of particular conventional working conditions (e.g. determining result effective lengths of the carbon chains) is deemed merely a matter of judicious selection and routine optimization which is well within the purview of the ordinary artisan, with said artisan recognizing that the carbon chain of the fatty acid on the Group A polymer must be long enough to find and interact with the functional groups of the Group B polymer so that the may be able react together and form a film.

Conclusion

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LORI MATTISON whose telephone number is (571)270-5866. The examiner can normally be reached on 8am-6pm (Monday-Thursday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yvonne (Bonnie) Eyler can be reached on (571)272-0871. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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